

### RESPONSE AND REQUEST FOR RECONSIDERATION

In response to the Office Action of January 16, 2009, Applicants hereby request the Examiner to reconsider the claims in view of the present amendments and remarks.

#### Claim Amendments

Claims 1, 6, 10, and 11 has been re-worded to specify (a) a metal base with mean particle size ranging from 15 nanometres to about 1 micrometres, wherein the metal base is selected from the group consisting of....."

The re-wording is fully supported by the specification page 8, line 2, and does not add subject-matter.

#### Novelty and Obviousness Rejections

The Examiner has not raised a 35 U.S.C. 102(b) rejection to claims 1-15. Accordingly, it is submitted that all claims are considered novel.

The Examiner has raised a 35 U.S.C. §103(a) rejections to claims 1 to 15 over Forsberg (US 4,094,801) in view of Crawford (EP 0 288 296), and in view of Young (GB 1 061 161) and further in view of Magyar (US 5,851,961). In particular, claims 1-3 and 5-15 have rejected in view of Forsberg, Crawford and Young. Claim 4 is rejected in view of Forsberg, Crawford, Young and Magyar. The Applicant respectfully traverses.

The Examiner contends that Forsberg discloses lubricants and fuels that consist of magnesium-containing liquid dispersion by mixing a metal base (specifically magnesium hydroxide, magnesium oxide, hydrated magnesium oxide or a magnesium alkoxide) a surfactants (an oleophilic organic reagent comprising at least one carboxylic acid, with at least one sulphonic acid, or an ester or an alkali metal or alkaline earth metal), water, and a solubilising agent. Forsberg does not explicitly disclose organic medium containing less than about 2 wt % of water, nor the dispersion having a solid content of 15 wt. % to 84 wt. %, nor grinding the slurry.

The Examiner then combines Forsberg with Crawford and Young.

Crawford is considered by the Examiner to disclose a fuel composition a minor amount of a metal salt in the form of a particulate dispersion and from Table 2, the water content can be as low as 2.6 wt. %.

Young is considered by the Examiner to slurries of lose fluid properties and even grinding of its solid content by ball mills.

The Applicant submits that combining Forsberg, Crawford and Young would not result in the composition as claimed in claims 1-3 and 5-15.

A comparative study has been undertaken by Claire Hollingshurst. The results of the comparative study are submitted in the enclosed Declaration.

Following an in-depth review, it is believed that Example 10 is the closest example to the present invention. The reason is because it has the combination of the highest solids content with the least amount of water i.e., a water content of 6.73 wt. %, and a solid content of 33.13 wt. % (see declaration by Hollingshurst). Further, example 10 of Forsberg described the product as a liquid, whereas other examples are described as gels. Reference to a liquid indicates that the fluid of example 10 is not a gel. A person of ordinary skill in the art knows that a gel is a semi-solid (and thus not a liquid). Consequently, the comparative study has both the inventive sample and the comparative example in the same physical state i.e., a liquid.

The comparative study prepared the product of example 10. In addition, the product of example 10 was blended in a high shear mix and also ball milled (a similar process to that disclosed in Young).

A chemical composition similar to that disclosed by Forsberg was also prepared, except it was prepared by the milling processes described in the specification of the present invention.

The compositions of the examples and characterization data for both the inventive example and the comparative examples are presented in the declaration by Hollingshurst.

The differences relate to the mean particle size and viscosity before shearing. Upon intense shearing of the comparative material, its viscosity becomes similar to that of the inventive example.

The inventive and comparative samples were then added to a middle distillate (a diesel fuel) at 1000 ppm, 1500 ppm, 2000 ppm, 2400 ppm and 3000 ppm. Storage stability was then measured. All of the comparative examples were observed to sediment out after a period of less than one hour. In contrast, the dispersion of the present invention was stable for a period of between 5 and 6 hours before sedimentation. This indicates that for all of the treat rates studied the dispersion of the present invention had considerably improved stability compared with the comparative examples.

Accordingly, if a person of ordinary skill in the art were to have taken the disclosure of Magyar and prepared a product directly from Magyar, or even ball milled it as suggested by Young, the resultant product does not have the inventive stability in fuel. This difference in performance would have been unexpected in view of the combination of references cited by the Examiner i.e., Magyar, Crawford and Young. Accordingly, the present invention is submitted to be unobvious in view of Magyar, Crawford and Young. The Examiner is therefore respectfully requested to withdraw the 35 U.S.C. §103(a) rejection over these three references and find all un-amended claims allowable.

As noted above (and in the Office Action dated 16 January 2009), Magyar has only been cited against claim 4. Given that claim 1 has not been rejected in view of Magyar, the Examiner considers that the subject matter of claim 1 is unobvious over Magyar. The rejection in view of Magyar only relates to claim 4. Since claim 1 of the present invention has not been rejected in view of Magyar, it is submitted that the rejection in view of Magyar is obviated.

#### Conclusion

For the foregoing reasons, it is submitted that the present claims are in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding Office Action. Therefore, an early and favorable reconsideration is respectfully requested. If the Examiner believes that only minor issues remain to be resolved, a telephone call to the undersigned is suggested.

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The Commissioner is authorized to charge the required fees for filing this response in time to meet the 4 month deadline of the Office Action from The Lubrizol Corporation Deposit Account No. 12-2275.

Enclosures: Petition for 2 month time extension  
Declaration from Inventor

Respectfully submitted,

/Samuel B. Laferty/

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